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Abstract

LIMITATION OF EXPOSURE TO WORKERS IN RADIATION EMERGENCIES

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Under radiation emergency conditions, as defined in this paper, there exists a requirement for prompt rescue or salvage action. Characteristically, such action may entail acceptance by workers of radiation doses much in excess of those acceptable under normal conditions. Action decisions in a particular emergency situation must be based upon an intelligent assessment of existing circumstances. The degree of urgency involved, rather than a rigid exposure limit applicable to all emergency situations, could be the important factor in operational decisions.

Acceptance by rescue workers of higher-than-normal radiation exposures, when not required by the degree of urgency encountered, is inherently undesirable. On the other hand, unreasoning fear or refusal on the part of such a worker to accept higher-than-normal exposures in the performance of essential rescue operations may be detrimental to his own safety, to that of his fellow workers, and to the public interest.

Under most circumstances, it is in the best interests of all concerned to restrict planned emergency exposures to less than 12 rems, as has been recommended by the ICRP. In general,

furthermore, necessary emergency actions should be designed to minimize higher-than-normal exposures, to the extent consistent with prompt and adequate response to the emergency situation. On the other hand, the urgency may be extreme; situations may arise in which lives will be lost if action is delayed. It is appropriate to consider whether, in such cases, doses higher than 12 rems should be accepted by rescue workers, particularly in view of the relatively small risk of significant biological injury at that level.

There is a present and continuing need for careful, sober deliberation and international debate on the subject of emergency exposure limitation. There is also a pressing need to provide adequate background material upon which the responsible individual can base a judgment on the relative risks associated with alternative courses of action in a radiation emergency.